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ABSTRACT

This document is concerned with the issue of who benefits from higher education and who should pay for it. Those who believe that society is the main beneficiary of higher education feel that state and federal budgets should bear the majority of educational costs; however, those who believe that the benefits of higher education are minimal in relation to social improvement believe that the students and their families should bear their own educational costs. The present mode of support to higher education incorporates a mixed system comprising for institutions a combination of tuitions, public appropriations, and private philanthropy; and for students a combination of loans, grants, work, family contributions, and foregone income. It is felt that this mixture of financial sources is, in the end, the most feasible, for it enhances institutional diversity and academic freedom by reducing the chances of monopoly and complete control by any one source. (HS)

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Who Benefits from Higher Education— and Who Should Pay?

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and

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Foreword

This paper examines the issue of who benefits and who should pay for higher education. It is based on the recurring idea that the allocation of costs between students and society should be related to the benefits—both social and individual—resulting from a higher education. Two versions of the benefit theory are advanced—one dealing with the *justice* of cost allocation among individuals and groups; the other concerned with the *efficiency* of resource allocation in terms of investment in the products of higher education. It is concluded that while American higher education is financed in a multiplicity of ways, this very pluralism provides a mixture of financial sources that fosters institutional diversity and academic freedom. The co-authors are Howard R. Bowen, a noted economist and Chancellor, Claremont University Center, and Paul Servelle, a faculty member at Whittier College and a student in economics at Claremont Graduate School.

This is the fifth in a new series of Clearinghouse reports to be published by the American Association for Higher Education (AAHE). In addition to the report series, the Clearinghouse also prepares brief reviews on topical problems in higher education that are distributed by AAHE as *Research Currents*.

Carl J. Lange, *Director*
ERIC Clearinghouse on Higher Education
August 1972

1 Introduction

Since World War II, far-reaching changes have occurred in the financing of higher education. Along with these changes a running debate has been going on about how higher education *should* be financed. That debate has by no means ended; the nation is still deliberating on how to pay for our colleges and universities and how to finance our students (13).

Prior to World War II, higher education was a minute part of the national economy. State institutions were financed primarily by state governments and tuitions were miniscule. Private institutions were financed by a combination of private gifts, endowment income (resulting from past gifts), and tuitions that were moderate by present standards. The role of the Federal Government in higher educational finance was negligible except for certain agricultural and other special programs. Students were financed primarily by their families with modest amounts of scholarship help and with virtually no loans except to cover temporary emergencies.

Following World War II, the enormous growth and reorientation of higher education, derived in part from rapid changes in American society, greatly altered the financial structure Immediately following World War II, the GI Bill provided direct financial support to students without means tests and reimbursed institutions for educational services to veterans. Later, scholarships and other grants to students were greatly increased. More recently, loans to students and work-study programs have been expanded sharply, while in the management of student aid increased emphasis has been placed on financial need based on means tests. These new features have been strengthened and extended in the recent "Education Amendments of 1972." With the growing

number of married students, spouses have become a significant source of support for students.

Comparable changes have occurred in the finance of institutions. Tuitions have been raised dramatically—especially by the private institutions but recently also by the public sector. Institutional borrowing has become commonplace to permit construction of academic buildings, residence halls, and other auxiliary facilities. A wide variety of grants, awards, and contracts for research, training, and public service activities have been provided. And, in the 1972 federal legislation, institutional aid based on the number of low-income and graduate students has been instituted.

As to sources of funds, the Federal Government has become a major contributor, philanthropic foundations have grown in number and resources, profitmaking corporations have become patrons of education, and colleges and universities have become more professional and more aggressive in fund-raising. Some states have contributed to private higher education either via scholarship programs or direct grants to institutions.

Most of these changes have been adopted one by one to meet particular problems or crises and have not been part of a grand and coherent design. The result is a variegated and rather untidy structure that is not founded on well-established or clearly-perceived principles. Altogether, however, these changes have channeled large amounts of new funds to higher education. The post-World War II transformation of higher educational finance has apparently not ended and the debate has not yet been stilled. There are many proposals for change and much discussion among educators, public officials, and economists who aim toward what some would refer to as more "rational" and more "permanent" solutions.

Perhaps the major issue is the apportionment of higher educational costs between students or their families and "society" as represented by government and philanthropy.

One recurring idea is that the allocation of costs between students and society should be related to the benefits from higher education. But there are two versions of the benefit theory and these are not necessarily congruent. One is concerned with *justice* in the allocation of costs among different persons and groups. The assumption is made that the beneficiaries should pay and that the costs should be divided among them in proportion to the total benefits received. The other version of the benefit theory is concerned with *efficiency* in the allocation of resources. The assumption is made that when a good or service yields both individual and

social benefits, its production should be increased beyond the amount that would be called forth by individual demand alone. This idea applied to higher education means that tuition should be lowered below cost per student until the combined marginal benefits to both individuals and society are equal to the marginal cost. The deficit should be made up from taxes or gifts.

In Chapters 2 and 3 these two versions of the benefit theory will be considered.

2 The Benefit Theory and Justice

The first and perhaps most common version of the benefit theory is that costs *should* be apportioned according to total benefit. This theory is seldom articulated but is often implied. It is assumed that some of the benefit from higher education accrues to individual students in the form of higher lifetime income, as well as the lifetime pleasures and satisfactions that flow from cultivation and learning, and the immediate pleasures and satisfactions associated with the life of a college student. At the same time, some of the benefit is said to accrue to society in general (including the non-college-educated) in the form of enlightened civic leadership, increased economic productivity, cultural advancement, and broadened opportunity. If one could sort out the benefits reaped by individuals and those harvested by society at large, it is argued, then a rational and just basis for dividing the cost between students (or their families) and society would be provided. Tuitions could be set accordingly—students unable to pay their share immediately would be provided with long-term loans, and society would pay its share in the form of public appropriations and philanthropic gifts.

This theory could be extended to include the research and public service activities of colleges and universities as well as their educational activities. Thus, benefits from research would be divided between those assignable to particular companies or industries or governmental agencies and those assignable to society at large. Benefits from public service (e.g., agricultural extension, health care, consulting on urban affairs) would be similarly divided between specific and general benefits. The costs would then be allocated accordingly.

The net effect of this benefit theory of finance would be neutrality of the higher educational system in the distribution of

real income. Since each student or each segment of the population benefiting from higher education would pay an amount corresponding to benefit received, each individual or each segment of society would be as well off after the transaction as before, and no change in the distribution of real income would occur.[1] This neutrality is held to represent justice, in that each is paying for what he gets just as he does when he buys groceries or clothing. The broad social question of equity in the distribution of income is thus dissociated from the higher educational system to be dealt with through taxation and other means.

No one who considers this or any other version of the benefit theory of higher educational finance can seriously believe that individual and social benefits are easy to sort out. It is even difficult to distinguish the effects of higher education as a whole from all the other sources of education or knowledge in our society including elementary and secondary schools, the home, the church, the armed forces, the media of mass communications, private reading and study, corporate research and development, etc. Professor Fritz Machlup has described in detail "knowledge production" in the United States (63, pp. 370-73) and has shown that the cost of formal higher education is less than 10 percent of the total cost of all knowledge production activities. And so, at best, benefit can be regarded as only a very rough guide to the assignment of costs and not as a precise measure.

In practice, differences of opinion about the allocation of benefits are extreme. Some economists, for example Professors Milton Friedman (39, 40) and Professor W. Lee Hansen and Burton A. Weisbrod (48),[2] hold that the social benefits of education not assignable to individuals are so minor or so tenuous that they may be ignored. These economists would concede that the research and scholarly activities of colleges and universities and perhaps some of their public services yield widely diffused social benefits, but they would distinguish these from education or "schooling" as Professor Freidman calls it. Their conclusion is that

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[1]This statement assumes that total investment in all aspects of higher education is carried out to the point that the marginal return from investments in education are equal to those from other forms of investment. This statement also ignores a technical matter of interest to economists—consumer and producer surpluses.

[2]Hansen and Weisbrod have in other writings expressed quite different views.

higher education, like carrots or automobiles, ought to be sold for a price (tuition) that covers the full cost, and that low-income students should be financed through loans or grants (48, 76, 96). Others believe that the social benefits are so great and so widely diffused that all or the great bulk of institutional costs should be paid out of general taxes and philanthropic gifts (11, 14, 29, 51, 101).

That social benefits are important was the prevailing view in the 19th century, when free public elementary and secondary education was launched, the Morrill Act was passed, and other public and private efforts were made to provide higher education at low or zero tuitions. Low tuitions were thought of as opening opportunity to young men and women and *at the same time* as developing individuals who would in turn benefit society. No serious inconsistency between private and social benefit was perceived. This point of view has dominated American thinking about higher education and has been challenged only quite recently. This point of view also is prevalent throughout the world. Most countries provide higher education with low or no tuitions, though many limit entry more strictly than does the United States (31).

Those who emphasize individual benefit and play down social benefit recommend that higher education ought to be sold for a price (tuition) that covers full cost. Those who believe social benefits are substantial and widely diffused recommend all or the great bulk of higher educational costs should be paid out of general taxes and philanthropic gifts. Still others, perhaps the majority, hold to a middle position about benefit and the distribution of cost. The present mixed system of higher educational finance is often justified on the ground that benefit is divided between students and society.

The line of thought outlined in this section has been very influential in the debates on higher educational finance. The underlying presumption is that it is not beyond human capacity to reach rough judgments about the allocation of benefits, and that justice is served if the costs are apportioned among the beneficiaries according to benefit received. However, some important issues are overlooked relating to the allocation of resources to higher education.

3 Marginal Analysis and the Benefit Theory

Economists are often concerned about efficiency in the allocation of resources and so their reasoning tends to focus on incremental changes in outputs or benefits "at the margin" rather than on total benefits (26; 63, chapters 7 and 10).

Economists are likely to consider higher education as an industry producing joint products, among which are (a) benefits to individual students in the form of higher lifetime earnings and varied personal satisfactions and advantages, (b) benefits to society flowing from the presence of educated people, and (c) benefits to society flowing from noninstructional activities, such as research, scholarship, criticism, creative art, and public service sponsored by colleges and universities usually in association with instruction.

These several products are necessarily produced jointly and simultaneously. Instruction, even though intended for individual benefit, automatically yields social benefit and vice versa; instruction and noninstructional activities are closely related and mutually supportive. However, the *proportions* of the several benefits can be altered as colleges and universities vary their emphases. For efficient allocation of resources, it is desirable to arrange higher education so that the final (marginal) dollar spent for one type of "product" yields as much incremental benefit as the final dollar spent for each of the other two types of product (65).

If the three kinds of benefits could be sold in the market for a price, then the amount produced of each type would be set at

the point where the extra cost of adding a marginal unit would be no greater than the price.[3]

This analysis yields a benefit theory of finance in which costs are borne in proportion to marginal, not total, benefits (26; 63, pp. 110-20). The reason for this refinement is that the marginal solution provides a guide to efficient allocation, whereas the solution in terms of total benefit does not. The total-benefit theory may, however, appeal to one's sense of justice and be accepted if one rates justice over efficiency. Moreover, the difference between the two theories may not be very relevant when the difficulty of measuring benefit—either marginal or total—is considered.

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[3]Under these conditions the educational enterprise might not be self-supporting and would require a subsidy from general taxes or philanthropy. From the socal point of view—assuming that the net effect of the taxes and philanthropy involved and of the benefits yielded would not have too adverse an effect on the distribution of income—such a subsidy would be justified.

4 Financial Options

In general, society has four ways of financing the production of various goods and services: (1) selling the good or service in the market for a price, (2) levying a tax or fee on users, (3) levying general taxes unrelated to use, and (4) obtaining philanthropic gifts. And of course these devices can be used in various combinations. A tantalizing question is: What determines the particular method of finance to be chosen for each good or service? Why is garbage collection usually sold for a price and sewerage usually financed from general taxes? Why is fire insurance sold for a price and fire protection supported from general taxes? Why are elementary and secondary schools financed almost entirely by general taxes and higher education partly by tuitions and fees? Why are art museums usually financed by philanthropic gifts and public libraries by general taxes? The answers to these questions are complex and lie at the heart of the issues in higher educational finance.

The central core of public functions, such as national defense, foreign relations, space exploration, law-making and law enforcement, public health, improvement of the general environment, etc., have usually been considered of broad social benefit and have been financed from taxes bearing little relation to individual benefit. In most cases, these services technically could not be sold to individuals at prices and user fees could not be assessed because these services are part of the general environment. Since individuals could not be excluded from the services, prices or fees could not be made a condition of receiving the services. At the other extreme, public services such as the post office, domestic water supply, and highways are financed by prices or user fees calculated to cover all or most of the costs. Between these

extremes are many services that could technically be sold at prices to cover costs but for one reason or another are financed wholly or in part from general taxes and philanthropic gifts. Among these are health services, public housing, sewerage, symphony orchestras, parks, research and development laboratories, public elementary and secondary schools and, of course, higher education. Why has "society" decided to finance these services wholly or partially out of general taxes or philanthropic gifts? Four reasons may be cited (1; 10; 68, pp. 802-22; 73; 97, pp. 65-144; 99):

1. At prices or fees to cover full cost, consumers of all or most income classes may buy less of the service than is deemed to be in their own long-run interest. The reason may be lack of knowledge or short-sightedness. Possible examples of services that may be underconsumed at full-cost prices are parks, health services, housing, elementary and secondary education, and higher education. This argument has been especially prominent in connection with higher education, the belief having become widespread that students and their families may be swayed by immediate financial considerations to forego investments that would pay off in the long run.
2. The good or service, though capable of being consumed individually and yielding individual benefits, also provides "external" benefits or by-products to society-at-large in forms that improve the general environment or the general welfare (81). Examples are hospital services that are of general benefit on a standby basis even to persons who may never actually use them, and higher education that may produce enlightened civic leadership or may enrich and advance the culture to the benefit of those who never attend college.
3. The distribution of opportunity may be widened. The price of strategic goods or services such as housing, food, health services, and education may exclude low-income people from opportunity. One way to spread opportunity is to sell such critical goods or services at below cost or at no cost (36).
4. The distribution of income may be altered (60, 102). The price of a good or service may prevent low-income people from consuming as much as they might wish or even prevent them from consuming any of it. One way

to increase the real income of the poor is to sell goods and services to them at below cost or at no cost. Examples are food stamps, Medicaid, subsidized housing, and education at all levels. Sale of particular goods and services at below costs is chosen in preference to grants in cash because society wishes to encourage the consumption of particular goods and services rather than to leave consumer choices up to the beneficiaries.

These four reasons for subsidizing goods and services from general tax revenues are, or are sometimes deemed to be, applicable to higher education. They constitute the usual arguments for departing from full-cost pricing in the financing of colleges and universities. In combination, they suggest that there are ample reasons, or rationalizations, for at least some subsidy.[4]

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[4]Several other reasons for departing from full-cost prices or fees and for subsidizing goods and services from general tax revenues may be mentioned. Though some of these are important for some goods and services, they are of marginal significance for higher education. These are:

(a) To foster a valuable activity that cannot become self-supporting. The demand for a good or service may be so small that there is no price at which its production can be made self-supporting; yet the good or service may be of sufficient social importance to justify its production. Examples are symphony orchestras, museums, repertory theatre, public libraries, some programs in higher education, such as classics or Chinese language.

(b) To increase the demand for a good or service. The demand may be sufficient for self-support but so small that the good or service will be produced at less than full capacity of the facilities needed (at decreasing unit cost). Under these conditions if the price were lowered, the incremental cost of providing more of the good or service would be small or even negligible in relation to the incremental benefit. Examples are highways, bridges, and parks that would be underutilized if tolls or fees were charged. This condition might apply to higher education in a sparsely populated area, such as Alaska or Micronesia.

(c) To avoid administrative costs of assessing and collecting fees when such costs are a high percentage of receipts.

5 Financial Options for Higher Education

Having identified the four chief reasons for pricing certain goods and services at less than full cost and for providing subsidies from general taxes or philanthropy, let us consider the applicability of these reasons to higher education.

The first reason implies that students may not purchase as much higher educational services as would be desirable *in their own interest* when the price (tuition) is at full cost, and suggests that the tuition should be set below full cost to encourage greater use of the services. The failure of students to buy as much higher education as they ought to may be due to the stinginess of parents, to the failure of parents to guide and encourage their children to get higher education, to inadequate appreciation by students of the long-run benefits from higher education, to the desire to marry early, to the immediate sacrifices necessary to finance higher education, to a dislike of studies, to a short time-horizon and unconcern for the future, etc. Society, recognizing that young people and their parents may make short-sighted decisions, may wish to reduce the cost of college attendance as a way of helping them make good choices, even though the benefit may be considered to flow entirely to the students and not to society generally. Just as parents like to guide their children along certain paths in the long-run interests of children, society may wish to guide young people toward education. Subsidy for this purpose does not depend on social benefit except as the long range welfare of the oncoming generation may be considered socially beneficial.

Subsidizing higher education to increase the amount purchased assumes that the demand for higher education is responsive to changes in the rate of tuition. Actually, we have little knowledge of the elasticity of demand—particularly in the region

of full-cost tuitions. The elasticity would certainly differ for different income classes, would differ among students according to the kind of family and neighborhood influences on them, and would differ according to the methods of finance, especially the availability of credit.[5] Elasticity probably has declined over time as college-going has become more widely accepted. Nevertheless, chances are that the elasticity of demand is still considerable in the region of full-cost tuition (which would range from $1,500 to $5,000 a year in most institutions). College attendance, including both numbers entering and average number of years attended, is probably encouraged substantially by subsidies that reduce tuitions (27). Thus, even if all benefit did accrue to individual students, subsidized tuitions could be justified. The total amount of such subsidies becomes a matter of judgment as to how many people should attend college and how much financial encouragement is needed to achieve a desired goal.

The second reason for selling higher educational services at below cost and subsidizing them through general taxes and philanthropy is that higher education produces benefits to society at large over and above the benefits accruing to students individually.

By enlarging higher education, more of these social benefits (or externalities) may be realized. For example, the culture may be broadened and deepened, civic leadership may be strengthened, etc. From this point of view, tuitions should ideally be set to expand enrollments so that the final thousand dollars per year spent on higher education will yield as much individual and social benefit as the final thousand dollars spent for other purposes, such as automobiles or housing or national defense. The judgmental question is: To reap the appropriate social benefits, how far below full-cost should the price be set? If it is judged that the social benefits of extending higher education are very great, then the price should be low or even zero; if it is judged that the social benefits are small, then the price should be at or near full cost. The operating deficit resulting from the agreed upon price would be made up from general tax revenues or from philanthropic giving.

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[5]Because tuition is only part of the cost of higher education (from the point of view of students) elasticity may be less than it would be if tuition were the sole cost. For an analysis of the costs applicable to students, see table 1, "Estimated Real Costs of Higher Education 1971-72," page 31.

Notice that this analysis is not based on apportioning costs according to the total amount of individual and social benefit; rather it is based on extending the amount of higher education until the final increment of expenditure yields a combination of individual and social benefits equal to those of the final increment of expenditures for other private and public goods (26, pp. 105-7).

Notice also that the mere existence of social benefit does not necessarily call for subsidy. Subsidy is called for only when achieving the social benefit requires enrollment beyond that consistent with a full-cost price (48, p. 122). For example, if the sole social benefit of higher education were advancement of knowledge; and if the full effect of higher education on the advancement of knowledge could be achieved when higher education is being sold at full-cost tuition; and no additional social benefit would be attained through increasing student enrollments; then tuition should be held at full-cost. Lowering the price would add no additional social benefits. At full-cost, individual students would be receiving a return equal to what they pay, and society would benefit without extra cost to anyone. If society felt that as a matter of justice it should pay part or all of the benefit from knowledge advancement, it could of course do so. Indeed, society might conceivably decide upon a policy of rewarding those persons whose activities produced social benefits and penalizing those whose activities produced social costs (81). However, in the example we are considering, where there is no advantage in increasing enrollment, if society were to reduce tuition below full-cost, it would merely be transferring real income from general taxpayers to students. Many economists hold that subsidies are appropriate only when social benefits can be increased through expansion of output.

The third reason for charging tuitions at less than full cost is to widen opportunity. High tuitions tend to exclude low-income people. To provide full equality of opportunity may require a low tuition, zero tuition, or even negative tuition. If the price is dropped to a point consistent with equality of opportunity, so that no one is shut out by reason of inadequate income, persons of higher income will receive the benefits of higher education at a price below what they would be willing to pay, or will be able to receive more higher education than they would otherwise have chosen. Their real income will therefore have been increased. Similarly, those of low income, who be reason of the low price

have been able to participate in higher education, will also enjoy an increase in their real income. Looked at from the social point of view, a sizeable transfer of real income from general taxpayers to students of all income classes will have occurred. The precise amount and incidence of this redistribution will depend on the progressiveness or regressiveness of the general tax system involved, and on the initial distribution of income among student beneficiaries (36, 48, 50, 78, 79).

A fourth reason for charging a tuition below full-cost may be to redistribute real income, aside from achieving equality of opportunity. In this case, society might provide education at a price below cost and finance the deficit from taxes graduated according to income; it might adopt discriminatory tuitions graduated according to income (84); or it might use some other combination of taxes and prices to alter the distribution of income.

In practice, all four of these reasons for subsidizing higher education tend to be intermingled. Society wants simultaneously to encourage young people of all classes to go to college, to reap certain social benefits from higher education, to widen opportunity, and to redistribute income. Lowering tuitions is one way to achieve them all and so, in practice, tuitions have almost uniformly been set at far below full cost in public and private colleges and universities of all types.

However, such subsidies do involve complications. Some people—chiefly the well-to-do and those highly motivated toward higher education—will receive windfall gains. Their consumption of higher education will not be increased by the subsidy, and they will get by with lower tuitions at public or philanthropic expense. Moreover, tuitions at the low levels needed to achieve the several objectives result in a heavy drain on the public treasury and on philanthropic dollars.

To overcome these problems society has experimented with three strategies: (1) discriminitory tuitions varying among students according to family income (84),[6] (2) universal full-cost tuitions, with grants to students varying inversely with income (48), or (3) full-cost tuitions with loans to students varying inversely with

[6]In a very rough fashion, discrimination of this type is achieved by the differing tuitions charged by community colleges, state universities, and private institutions.

income (40, 76, 96). The difficulties with these strategies are that they involve the means test, which is considered by some to be repugnant or difficult to administer, and that they are based on the assumption that parental income is a decisive factor in determining need—an assumption distasteful to those who believe that students should be emancipated from dependence on parental support. Many of the complications and compromises in higher educational finance arise from a concern to cut the cost of subsidies and to avoid windfalls. This concern over windfalls could be greatly reduced if the general tax system were sufficiently progressive to compensate for windfalls to the well-to-do.

6 Individual Benefits from Higher Education

The benefits to individuals from higher education are quite easy to identify though not to measure or evaluate. One of them is the immediate pleasure of attending college, pleasure in the form of the stimulus of interesting people and ideas, sociability, recreation, pleasant surroundings, interesting experiences. Not all students regard the experience of college as a direct benefit but most do. Second, families receive satisfactions from the opportunities available to their children in college and many also benefit from being able to shift some of the responsibility for supervision and development of their children to an institution.[7] Third, as a result of college education students enjoy lifelong personal satisfaction through knowledge, understanding, aesthetic appreciation, enriched values, and easy social relationships. Fourth, lifelong earnings are increased. These individual benefits do not accrue to every person who enters college but there is little doubt that on the average most students and their families are greatly benefited immediately and in the long run.

A voluminous literature has emerged in the last decade on the economic benefits to individuals flowing from higher education. This has been part of a broader research thrust focused on the idea of education as a form of *investment in human capital.* A basic

[7]On this point, Adam Smith made some pertinent comments. He pointed out that in the absence of worthy universities in his time, many families sent their sons abroad for several years. By so doing "a father delivers himself at least for some time, from so disagreeable an object as that of a son unemployed, neglected, and going to ruin before his eyes." Adam Smith also observed that for a young man at the age of seventeen or eighteen "it is very difficult not to improve a good deal in three or four years" *The Wealth of Nations,* Book V, Chapter I, p. 257).

objective has been to determine the rate of return to this kind of investment and to compare the rate of return with that from other kinds of capital investment.

The economic returns to education are in the form of higher lifetime productivity and income of the individual who receives the education. This enhanced productivity and income derive from several sources.

First, education informs its students of many career opportunities and exposes them to many subjects of study and to diverse experiences. As a result, students are helped to find careers that match their aptitudes and interests and in which their productivity is likely to be at a maximum (91). Incidentally, they also are helped to find the vocations from which they are likely to receive the greatest personal satisfactions.

Second, education enhances the versatility of people, widens their options, and reduces the risk of obsolescence or blind alleys. The advancement from one level of education to another requires that prerequisites be fulfilled (107). Thus the completion of each stage of education, (grade school, high school, lower division college, the baccalaureate degree, the master's degree, etc.) creates the option of still additional investments. Education also widens job options and enlarges choices among combinations of income, leisure, and security.

Third, education helps people perform tasks they might otherwise have to pay others to perform; for example, preparing income tax returns and negotiating private business transactions (107). Similarly, education may help consumers to buy more intelligently, to be discriminating in their responses to salesmanship and advertising.

Fourth, and most important, education enhances the skill and competence of people for many special vocations and thus increases income.

The studies of rates of return to investments in education have not taken all these factors into account. They have been based primarily on comparing the average investment or cost involved in providing higher education and the resulting average increment to the lifetime stream of earnings (discounted) (2, 3, 6, 7, 8, 19, 20, 21, 22, 25, 33, 37, 42, 43, 44, 56, 57, 66, 69, 70, 71, 72, 85, 87, 92, 98, 103, 106, 107). These calculations can be made from the private point of view by comparing (a) the expenses of an education to the individual (ignoring the subsidies from general

taxes and philanthropy) and (b) the increased lifetime income after taxes. They can also be made from the social point of view by comparing (a) the private expenses and the subsidy and (b) the lifetime income before taxes (2, 3, 5, 6, 21, 22, 44, 56). In both cases, the question of whether foregone income should be included as one of the costs arises. Almost all economists do include foregone income, but many non-economists have difficulty accepting this concept.

In calculating rates of return, efforts have been made to screen out biases resulting from the possibility that the college educated start with greater innate ability or are the product of superior environmental influences or have better social connections than non-college people (2, 3, 25, 32, 72, 110).

The end result of most of the studies is that the private ratio of return to investments in higher education are of the order of 9 to 11 percent and the social rates of return are from 8 to 20 percent (2, 3). Apparently, on the average it pays to go to college.

Considerable research has also been done to measure the relation between education and national economic growth. In this research no effort has been made to distinguish between that part of economic growth that has been appropriated by individuals in higher individual income and the part (probably substantial) that has been diffused throughout society in generally improved economic performance. The studies uniformly conclude that education, at least in the past half-century, has been a significant factor in economic growth (35, 64, 90).

7 Social Benefits from Higher Education

The social benefits from higher education are more subtle, more difficult to identify and evaluate, and therefore more controversial than the individual benefits. They derive partly from the instructional activities of colleges and universities and partly from the research and public service activities (7, 9, 14, 18, 34, 49, 55, 58, 61, 62, 95, 100, 105, 108, 112, 113). These two aspects of higher education are inextricably intermingled but we shall try to consider the social benefits from them separately.

Higher education through its instructional activities undoubtedly discovers talent, strengthens leadership in all parts of the economy, makes possible wide application of high technology, and encourages innovation. Many of these benefits may be appropriated in individual incomes but surely not all of them are.

Higher education raises the quality of civic and business life by providing an educated political leadership, by preparing people for good citizenship, by providing the host of volunteer community leaders needed to make society function, and by supplying a large corps of people who can bring humane values and broad social outlook to government, business, and other practical affairs. Higher education results on the whole in improved home care and training of children. It produces millions of persons who enter essential professions having compensation below rates paid for work requiring less education—for example, teachers, clergymen, nurses, social workers, and public officials. Colleges and universities are centers for the propagation of social change or change in public policy, for example, in race relations, Viet Nam policy, and environmental policy—though not everyone regards this function as beneficial. Colleges and universities provide a vast and versatile pool of specialized talent available to society for a wide

variety of emergent social problems. This talent is informed and expert on problems of many kinds, for example, rare diseases, foreign policy, pollution, urban planning, unemployment, taxation, water supply, and thousands of others. The standby value of this pool of talent is enormous. Finally, higher education contributes refinement of conduct, aesthetic appreciation, and taste, and thus adds to the graciousness and variety of life.

Through activities in research, scholarship, criticism, creative art, and public service, higher education also produces social benefits of great value. We shall refer to these as the "scholarly activities" of colleges and universities. Through research, higher education produces knowledge which is a good in itself, which is the foundation of our technology (broadly defined), and which provides the ideas and means for shaping the future. Through scholarship, colleges and universities preserve the cultural heritage, interpret it to the present, discover values and meanings and distill wisdom out of past experience. Through social and artistic criticism, they screen and evaluate ideas of the past and present. As patrons and promoters of the arts, they are among the chief centers in our society of artistic creativity. As centers of public service, they provide medical clinics, agricultural extension, professional conferences, and consultation on public and private problems. To sum up, higher education is a major factor in the preservation and transmission of the cultural heritage, in the formation of the culture of the future, and in the solution of immediate problems.

Merely by identifying—vaguely to be sure—the social benefits from higher education, one establishes that they are substantial.

A major question is: Should the scholarly activities of higher education be considered, wholly or to some extent, as part of instruction with the costs assigned to instruction or should they be considered separately from instruction with costs assigned separately? They could of course be carried on in institutes and in government agencies quite apart from instruction. Does the fact that they are combined with instruction in colleges and universities suggest that they are a necessary ingredient or accompaniment of good instruction? This is a controversial question. Many voices are saying that there is too much research, public service, etc., in our colleges and universities, and that these activities are not only unnecessary to good instruction but positively harmful to it. Alternatively, it is sometimes assumed that scholarly activities

should be confined to a few great universities. It is true that these activities are emphasized in the major universities more than in liberal arts colleges, state colleges, or community colleges; but all branches of higher education are involved to a greater or lesser extent. Community colleges, for example, serve as local cultural centers, as patrons of the arts, centers of discussion and consultation, and a source of advice on community issues.

The prevailing academic opinion is that the functions of research, scholarship, criticism, creative art, and public service are essential ingredients and by-products of good instruction at all levels.[8] Obviously not every institution should or could be a major center of learning. Yet it is hard to visualize a good college or university, even a community college, devoted solely to instruction without associated scholarly activities. Good education requires a spirit of inquiry, a center of culture, and contact with intellectual and social problems.[9] Society as represented by many public officials and segments of the general public, may be in danger of trying to restrict the functions of higher education too narrowly and to convert our institutions into mere assembly lines, generating credit hours of instruction rather than centers of learning and culture. In our opinion, it would be a mistake, harmful both to good education and to social welfare, to try to turn our universities and colleges into mere manufacturers of credit hours and degrees and to judge them solely by their productivity in these terms (16).

One ends with the conclusions (a) that higher education produces substantial social benefits through both its strictly instructional activities and its scholarly activities, and (b) that its scholarly activities are important ingredients—as well as by-products—of its instruction.

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[8]They are of course more important at the graduate and professional levels than at the undergraduate levels. It should be recognized also that certain research and public service activities such as national laboratories or agricultural extension have a minimal relationship to instruction. Perhaps the common distinction between departmental research and organized research is close to the mark.

[9]In the economists' jargon, instruction and scholarly activities are joint products, the proportions of which can be varied. As the proportion of scholarly activities increases from a negligible percentage, it contributes to quality of instruction; as it approaches 100 percent, and dominates institutions, it detracts from instruction. Between the extremes lies an optimum. See chapter 4.

These conclusions have a bearing on the question of tuitions. If one accepts the benefit theory of finance, then the costs of higher education (including both student and institutional costs) should be divided between students and society according to the estimated division of total or marginal benefits. On this basis, a large share of the cost, perhaps as much as a third or a half, might be assigned to society (as represented by general taxpayers and philanthropists).

8 The Costs of Higher Education

In approaching the question of who should pay for higher education, an analysis of the *costs* of education is necessary. The real costs are in two parts: (1) operating costs of colleges and universities to support instruction and scholarly activities, including salaries and wages, imputed rental value of facilities and equipment, expenditures for supplies and services, maintenance costs, etc.; (2) costs incurred by students to attend college, including foregone income and incidental expenses of attending.

A major part of the real cost of higher education is the income foregone by students by reason of attending college. Most students, if they were not in college, would be earning a living by contributing their considerable energy and intelligence to gainful work. A conservative estimate of the annual income they forego in order to attend college is $5,100 per student.[10] This figure applied to about 5 million full-time students enrolled in higher education results in a total cost in the form of lost earnings of about $25 billions annually. Note this total assumes no foregone income for part-time students. This is the loss in income to students as a result of their being in college.

Because they are in college, someone else—parents, spouses, other donors, government, private lenders—must provide all or part of their living expenses. This someone else is really replacing

[10]The average weekly earnings of private nonagricultural employees in March 1972, was $132, or about $6,600 per year. To adjust for inexperience, the foregone income of students who otherwise would work might be $6,000. Suppose, further, that about 15 percent of today's full-time students, if not in school, either would choose not to enter the labor force or would remain unemployed. If so, the average sacrifice per student would probably be in the neighborhood of $5,100 ($6,000 x .85).

part of what the student might have earned. By working part-time, the student can also replace some of the foregone income himself. Any remaining balance of foregone income is an unrecovered loss that the student bears.

Many people unfamiliar with economics have difficulty in accepting the idea that foregone income is a genuine cost. Counting as a cost something that didn't happen seems unreal or far-fetched. Yet, there is no doubt that most college students have the option of working instead of attending college and that when they choose college they are giving up substantial income. To put it another way they are devoting their time and labor to education instead of gainful employment (8, 15, 33, 87, 89, 91, 107).

One objection to the idea of foregone income is based on the assumption that if students were not in college they would be unemployed. To the extent that they would indeed by unemployed, and some of them would, the objection is valid. But it is unlikely that large numbers of the kind of young persons who are now college students would be unemployed if they were in the labor force. Of course, if college education were suddenly terminated and millions of young people were suddenly thrown on the labor market, considerable time would be required to absorb them into employment. But if college education had never developed in this country, there is no reason to suppose that all or most of the young people of ages 18 to 21 would be out of work. There is no shortage of work to be done in our society. Given appropriate fiscal policy, the economy can adjust, both on the demand and the supply side, to any size of labor force (74, pp. 9-16). The concept of college education as a way of avoiding unemployment is a false concept.

Foregone income is such a large element of the cost of education that its inclusion or exclusion makes a great difference in the division of the cost between individuals and society and great differences in calculations of the rate of return to investments in education. If the time of the student is considered as free, good, and costless—an assumption that is to most economists patently false, conclusions will be reached about the finance of education that are quite different from those based on inclusion of foregone income. Differences of judgment on this issue account for many differences in policy recommendations on finance.

The other major element of cost to the student is incidental expense, relating to college attendance, over and above what the

student would have spent if he had not attended college. Expenses of this type include books, educational supplies and equipment, transportation, membership dues, and that part of living expenses, if any, which exceeds the outlays on food, lodging, and clothing ordinarily incurred when not attending school. College attendance normally raises some living costs, and it is these extra costs which appropriately should be included as real costs of higher education. They are estimated roughly at $500 annually per student.

To the costs relating to students must be added the costs of the institutions providing education services. These costs include operating expenditures and capital costs (counted at imputed rental value). The annual cost of operating colleges and universities is nearly $3,500 per student.

Table 1 persents estimates of the real costs of higher education for 1971-72. These estimates are crude and should be

TABLE 1. ESTIMATED REAL COSTS OF HIGHER EDUCATION, 1971-72

	Average Cost per student (thousands)	Total Cost (billions)	Percentage
1. Foregone income of students[1]			
a. Unrecovered loss	$2,900	$17.4	30%
b. Portion replaced by student's own part-time earnings and savings	700	4.2	7
c. Portion replaced by parents and spouses	1,150	6.9	12
d. Portion replaced by loans	180	1.1	2
e. Portion replaced by grants	170	1.0	2
Subtotal	$5,100	$30.6	53%

TABLE 1. ESTIMATED REAL COSTS OF HIGHER EDUCATION, 1971-72 (continued)

	Average Cost per student (thousands)	Total Cost (billions)	Percentage
2. Incidental expenses of students[2]	500	3.5	6
3. Operating costs of institutions[2]			
a. Educational costs financed from tuitions and student fees	720	5.0	9
b. Educational and capital costs financed from public appropriations and philanthropy	2,025	13.9	23
c. Costs for organized research and public service	725	5.0	9
Subtotal	$3,470	$23.9	41%
Total	$9,070	$58.0	100%

[1]Assumes that only full-time students forego income. Of the 8,714,000 students enrolled in 1971-72, about 6 million were full-time. U.S. Office of Education, *Projections of Educational Statistics to 1979-80* (1970 edition), pp. 22, 23, 26.

[2]Refers to 6.9-million students in full-time equivalents (*Ibid.*, p. 29). Operating costs of institutions omit auxiliary enterprises. These are included partly in incidental expenses of students and partly in the living costs of students that are not part of the real costs of education. Students would have board and room costs whether or not they were in college. Operating costs also omit capital costs because data are not available. Hence the figures are understatements.

used only to indicate rough orders of magnitude. Even so, the table shows how heavily the real costs of higher education bear upon students and their families. All of the foregone income except the portion replaced by grants, all of the incidental expenses, and all tuition and fees are borne by students and their families. These costs together are 66 percent or roughly two-thirds of the total. Thus, despite the many financial arrangements devised in recent years to subsidize both students and institutions, students and their families still bear the major burden of higher educational costs (11, 15).

9 Conclusions

As one considers the benefit theory of finance in the light of the estimates of table 1, the question is whether the division of total costs—two-thirds to students and their families and one-third to "society"—is appropriate. Would national well-being be enhanced if the share borne by students and their families were increased or decreased?

In general, those who think the student share should be increased place a relatively low valuation on the social benefits and tend to ignore foregone income. They believe that social benefits are not significant at the margin and that society gains little by encouraging the extension of higher education through low tuitions. Some would deal with the problem of equality of opportunity through grants based on a means test and some through loans. Some of those who think the student share should be increased believe that higher education would be more flexible and responsive to student needs if the bulk of its finance came from students in the form of tuitions rather than from government and philanthropy. Some—especially hard-pressed public executives and legislators—would like to remove the mounting costs of higher education from public budgets by shifting the burden to students and their families—presumably with massive loans financed by the private capital market.

Those who think the share borne by students and their families should be reduced (or held steady) believe that social benefits are substantial and that foregone income is a significant cost. They tend to be more concerned about justice achieved by distributing the load in proportion to total benefit than by considerations of marginal social benefits. They are concerned that the use of loans to finance students will restrict opportunity for

those of low income. They are concerned with the possible inequity of forcing the present generation of low-income students (many of whom happen to be of minority races) to take loans whereas previous generations of low-income students who happened to be white enjoyed very low or zero tuitions. They also believe that academic policy should be determined to a significant degree by professional decisions of faculty and administration and that no single group of outsiders—whether government, donors, or students—should become predominant in the finance of higher education. This view leads to advocacy of the present mixed system of finance in preference to a system where students become the main vehicle by which funds are conveyed to colleges and universities. They point out that from the social point of view no basic purpose is served by transferring the costs from public to private accounts, since the costs are still there and must be met.

The controversy is basically one of values and judgments. Neither side can overwhelm the other. At the moment, the political forces and practical budgetary considerations are causing a sizeable shift to higher tuitions in the finance of institutions and to loans in the finance of students (24, 28, 30, 52, 53, 59, 67, 77, 80, 82, 88, 104, 111, 116). When one considers the various elements in the total cost of higher education including foregone income (as shown in table 1), these shifts have so far been rather modest on a percentage basis.

Basically the finance of American higher education continues to be a mixed system comprising for institutions a combination of tuitions, public appropriations, private philanthropy and for students a combination of loans, grants, work, family contributions, and foregone income. This system has evolved to meet the exigencies of institutions and students and it has been a product of the complex cross-currents of American politics. The system is not tidy; it is based on no single ideology; it is full of compromises; and it is hard to understand. It fully pleases no one.

Yet it does apportion the costs to benefit in a rough and ready fashion; it opens up opportunity as shown in the past several decades; it supports a system of higher education that is lively, progressive, and effective (despite its faults); it provides a mixture of financial sources that encourages institutional diversity and academic freedom. To make an air-tight and compelling argument for fundamental or radical change in either direction is difficult. As Marion Folsom, a distinguished businessman and former Secretary of HEW once said (38, p. 195):

The financial support of higher education *is a patchwork quilt.* This support is drawn from virtually every known source. . . . This patchwork quilt . . . is *no jumble of confusion.* Instead, it is a significantly complete list of the groups that form the broad base of support for higher education in our society. . . . It is true that *"he who pays the piper calls the tune."* The integrity of higher education is ensured by the fact that no one group is really paying the piper and thus no one group can "call the tune." This broad base of support ensures that our system will remain free of a single, limiting educational creed. And this, in a sense, is the *genius* of American education—that there is no single interest, no one creed or dogma, that might stifle the freedom and independence we as a people cherish.

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The literature on the finance of higher education—even that touching on the benefit theory—is voluminous. Much of it is somewhat fugitive in that it is scattered among books and journals, federal and state documents, conference preceedings, polemical pamphlets, etc., representing many fields. However, the following excellent bibliographies and books of collected readings have been published. Anyone wishing a guide to the literature should consult them.

The ERIC Clearinghouse on Higher Education abstracts and indexes the current research literature on higher education for publication in the U.S. Office of Education's monthly volume, *Research in Education* (RIE). Readers who wish to order ERIC documents cited in the bibliography should write to the ERIC Document Reproduction Service, Post Office Drawer 0, Bethesda, Maryland 20014. When ordering, please specify the ERIC document (ED) number. Unless otherwise noted, documents are available in both microfiche (MF) and hard/photocopy (HC). All microfiche titles cost $0.65; hard/photocopy reproduction costs $3.29 per 100 pages. All orders must be in writing and payment must accompany orders of less than $10.00.

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